

REMARKS

Consideration of the present application is respectfully requested in light of the above amendments to the claims, the telephonic interview conducted on June 12, 2008, and in view of the following remarks. Applicants extend their gratitude to Examiner Ruddock for her time and consideration given during the telephonic interview and in her reconsideration of the present application.

Status of the Claims

After entry of the foregoing amendments, Claims 1, 3-8, and 18-25 are pending in the present application. Claims 1 and 18 are the independent claims. Applicants have amended Claims 1, 3-6, 8, 18-23, and 25 herein. Applicants have canceled Claims 9 and 26 without prejudice to, or disclaimer of, the subject matter recited therein. No new matter has been added.

Summary of Telephonic Interviews

Applicants and the undersigned thank Examiner Ruddock for her time and consideration given during the telephonic interview of June 12, 2008. During that telephonic interview, Applicants' representative explained that the combination of U.S. Patent No. 6,855,650 to Bohannon, Jr. ("*Bohannon*"), U.S. Patent No. 5,849,645 to Lancaster ("*Lancaster*"), and U.S. Patent No. 5,972,463 to Martin et al. ("*Martin*") fails to disclose, teach, or suggest all of the elements recited in a proposed amended version of independent Claim 1.

In particular, Applicants' representative explained that the cited documents fail to disclose, teach, or suggest at least the combination of: (1) at least one polymer net layer; (2) a non-woven mat comprising a plurality of tri-lobal polymer fibers, wherein a cross-sectional geometry of respective ones of the tri-lobal polymer fibers consists essentially of: (a) a substantially circular, substantially uniform core region, (b) three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped convex member disposed along a portion of the circumference of the core region, a shortest distance between a geometrical apex of the convex member and the portion of the circumference of the core region being substantially equal to a longest width of the convex member along a geometrical axis perpendicular to a geometrical axis defined by a shortest distance between the

apex and the portion of the circumference of the core region, and (c) three substantially concave and smoothly curved channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, each smoothly curved channel being configured to capture at least one of sediment and water, to break up a flow and an energy of water passing over said soil and said mat; and (3) a polymer yarn, stitching said net layer to said non-woven mat, as recited in a proposed amended version of independent Claim 1. Specifically, Applicants' representative explained that none of the cited documents, including *Martin*, disclose, teach, or suggest tri-lobal polymer fibers having the specific cross-sectional geometry of this combination.

Examiner Ruddock acknowledged Applicants' discussion of the differences between the claimed invention and the prior art and agreed to conduct an updated search for the claimed invention, as amended, upon receipt of a formal amendment from Applicants.

Applicants and the undersigned request the Examiner to review this interview summary and to approve it by writing "Interview Record Okay" along with her initials and the date next to the summary in the margin, as required by M.P.E.P. § 713.04.

Double Patenting

In the Office Action, the Examiner provisionally rejected Claims 1, 3-9, and 18-26 under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1, 23, and 45 of U.S. Patent Application No. 11/297,022 to Weiser et al. ("*Weiser*"). While Applicants do not agree with the Examiner's assertion that these claims are unpatentable over *Weiser*, to expedite prosecution of this application, Applicants have submitted herewith a terminal disclaimer. The terminal disclaimer disclaims the term of any patent resulting from this application that would extend beyond the term of any patent issued based on *Weiser*. Accordingly, Applicants request that the Examiner withdraw the double patenting rejection.

Claim Rejections Under 35 U.S.C. § 103(a)

In the Office Action, the Examiner rejected Claims 1, 3-9, and 18 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Bohannon*, *Lancaster*, and *Martin*. Applicants respectfully traverse these claim rejections.

In particular, Applicants submit that none of these documents, alone or in combination, disclose, teach, or suggest the combination of: (1) at least one polymer net layer; (2) a non-woven mat comprising a plurality of tri-lobal polymer fibers, wherein a cross-sectional geometry of respective ones of the tri-lobal polymer fibers consists essentially of: (a) a substantially circular, substantially uniform core region, (b) three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped convex member disposed along a portion of the circumference of the core region, a shortest distance between a geometrical apex of the convex member and the portion of the circumference of the core region being substantially equal to a longest width of the convex member along a geometrical axis perpendicular to a geometrical axis defined by a shortest distance between the apex and the portion of the circumference of the core region, and (c) three substantially concave and smoothly curved channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, each smoothly curved channel being configured to capture at least one of sediment and water, to break up a flow and an energy of water passing over said soil and said mat; and (3) a polymer yarn, stitching said net layer to said non-woven mat, as presently recited in each of amended independent Claims 1 and 18.

A. Bohannon

With reference to Figure 3 of *Bohannon*, reproduced below, *Bohannon* is directed to an erosion control blanket 100 formed of three layers of material. The first layer is a top sheet 120 of an open-meshed material of natural or synthetic fibers. The second layer is a loose fiber filler 140 arranged to form a three-dimensional matrix, which provides the erosion control blanket 100 with a required amount of loft or resiliency. The third layer is a bottom sheet 160 of open-meshed material that generally resembles the top sheet 120, i.e., the first layer, in construction. See *Bohannon* at Col. 3, lines 41-50.

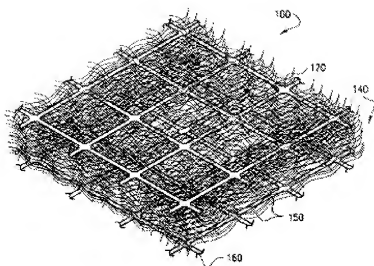


FIG. 3

The filler material 140 of the erosion control blanket 100 is an arrangement of crimped polymer fibers 150. Although the polymer fibers 150 may be arranged in various ways, *Bohannon* suggests randomly dispersing the fibers 150 to produce a blanket 100 with sufficient loft. In one embodiment, the polymer fibers 150 are formed of a post-consumer polyester, namely polyethylene terephthalate (PET). See *Bohannon* at Col. 4, lines 42-52.

As admitted by the Examiner in the Office Action, *Bohannon* fails to provide any description of the geometry and/or configuration of the cross sections of the polymer fibers 150. Therefore, *Bohannon* fails to disclose, teach, or suggest a non-woven mat comprising a plurality of tri-lobal polymer fibers, wherein a cross-sectional geometry of respective ones of the tri-lobal polymer fibers consists essentially of: (a) a substantially circular, substantially uniform core region, (b) three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped convex member disposed along a portion of the circumference of the core region, a shortest distance between a geometrical apex of the convex member and the portion of the circumference of the core region being substantially equal to a longest width of the convex member along a geometrical axis perpendicular to a geometrical axis

The bottom netting 30, the fiber matrix 20, the cusped netting 40, and the top netting 50 are preferably secured together by stitching strands of 60 to 100 per cent polyester black thread in spaced relation. See Lancaster at Col. 5, lines 22-25. Even assuming for the sake of argument only that this thread is equivalent to the polymer yarn of Applicants' independent Claim 1, as asserted by the Examiner in the Office Action, Applicants submit that Applicants' claimed invention is still patentable over at least *Lancaster*.

Lancaster fails to provide any description of the geometry and/or configuration of the cross sections of any fibers within the matting, including the fibers in the fiber matrix 20. Therefore, *Lancaster* fails to disclose, teach, or suggest a non-woven mat comprising a plurality of tri-lobal polymer fibers, wherein a cross-sectional geometry of respective ones of the tri-lobal polymer fibers consists essentially of: (a) a substantially circular, substantially uniform core region, (b) three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped convex member disposed along a portion of the circumference of the core region, a shortest distance between a geometrical apex of the convex member and the portion of the circumference of the core region being substantially equal to a longest width of the convex member along a geometrical axis perpendicular to a geometrical axis defined by a shortest distance between the apex and the portion of the circumference of the core region, and (c) three substantially concave and smoothly curved channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, each smoothly curved channel being configured to capture at least one of sediment and water, to break up a flow and an energy of water passing over said soil and said mat, as presently recited in each of amended independent Claims 1 and 18. Accordingly, Applicants submit that *Lancaster* alone cannot anticipate or render obvious Applicants' claimed invention.

C. *Martin*

In the Office Action, the Examiner cited Figure 14 of *Martin*, reproduced below, as allegedly disclosing multicomponent filaments of a web, wherein the filaments can have trilobal cross sections with at least three substantially concave and smoothly curved channels separating at least three substantially convex and smoothly curved lobes. As Applicants understand, *Martin* is directed to undrawn, tough, durably melt-bondable, macrodenier, thermoplastic, multicomponent filaments. Figure 14 of *Martin* illustrates a trilobal filament with a single core 151 and a single sheath 152, with a single interface 153 between the core 151 and the sheath 152. The core 151 is essentially centrally disposed within a trilobal sheath 152. See *Martin* at Col. 13, line 64 to Col. 14, line 12.



While Applicants disagree with the Examiner that the filament illustrated in Figure 14 of *Martin* has a cross section with at least three substantially concave and smoothly curved channels separating at least three substantially convex and smoothly curved lobes, and therefore believe that Applicants' independent Claims 1 and 18 were patentable as previously presented, Applicants have amended independent Claims 1 and 18 herein to specify that a cross-sectional geometry of respective ones of the tri-dimensional polymer fibers of Applicants' invention consists essentially of: (a) a substantially circular, substantially uniform core region, (b) three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped convex member disposed along a portion of the circumference of the core region, a shortest distance between a geometrical apex of the convex member and the portion of the circumference of the core region being substantially equal to a longest width of the convex member along a geometrical axis perpendicular to a geometrical axis defined by a shortest distance between the apex and the portion of the circumference of the core region, and (c) three substantially concave and smoothly curved channels separating the elongated lobes, a

portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, each smoothly curved channel being configured to capture at least one of sediment and water, to break up a flow and an energy of water passing over said soil and said mat.

Applicants have marked Figure 3 of Applicants' original application below to illustrate one exemplary embodiment of a tri-lobal fiber having this cross-sectional geometry.

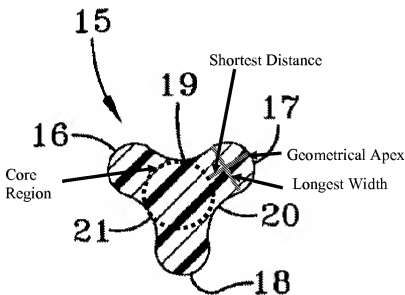
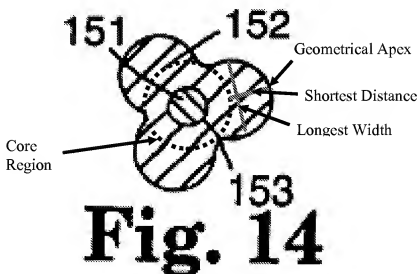


FIG-3

Applicants respectfully submit that *Martin* fails to disclose, teach, or suggest at least this cross-sectional geometry. In particular, Applicants note that the lobes of the sheath 152 of *Martin* are round, rather than elongated and substantially symmetrical half-ellipse shaped, and that each of the alleged “channels” between the lobes does not include a plurality of points along the circumference of a substantially uniform core region. Even assuming for the sake of argument only that the core 151 of *Martin* can be equated with Applicants’ claimed “core region,” each of the “channels” between the lobes of *Martin* does not include a plurality of points along the circumference of the core 151.

In addition, as illustrated in the below marked version of Figure 14 of *Martin*, for each of the lobes of the sheath 152 of *Martin*, a shortest distance between a geometrical apex of the lobe

and a portion of a circumference of a core region along which the lobe is disposed is not substantially equal to a longest width of the lobe along a geometrical axis perpendicular to a geometrical axis defined by the shortest distance between the geometrical apex and the portion of the circumference of the core region. Rather, the longest width of the lobe of Martin is larger than the shortest distance between the geometrical apex of the lobe and a portion of a circumference of a core region along which the lobe is disposed. Mark up the figure of Martin and illustrate these parameters below this paragraph.



Therefore, *Martin* fails to disclose, teach, or suggest a non-woven mat comprising a plurality of tri-lobal polymer fibers, wherein a cross-sectional geometry of respective ones of the tri-lobal polymer fibers consists essentially of: (a) a substantially circular, substantially uniform core region, (b) three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped convex member disposed along a portion of the circumference of the core region, a shortest distance between a geometrical apex of the convex member and the portion of the circumference of the core region being substantially equal to a longest width of the convex member along a geometrical axis perpendicular to a geometrical axis defined by a shortest distance between the apex and the portion of the circumference of the core region, and (c) three substantially concave and smoothly curved channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points

along the circumference of the core region, each smoothly curved channel being configured to capture at least one of sediment and water, to break up a flow and an energy of water passing over said soil and said mat, as presently recited in each of amended independent Claims 1 and 18. Accordingly, Applicants submit that *Martin* alone cannot anticipate or render obvious Applicants' claimed invention. We may consider marking up our Figure and illustrating it below. I would consider doing this for Appeal purposes.

D. Combination of *Bohannon*, *Lancaster*, and *Martin*

As stated above, neither *Bohannon*, *Lancaster*, nor *Martin* discloses, teaches, or suggests at least the combination of: (1) at least one polymer net layer; (2) a non-woven mat comprising a plurality of tri-lobal polymer fibers, wherein a cross-sectional geometry of respective ones of the tri-lobal polymer fibers consists essentially of: (a) a substantially circular, substantially uniform core region, (b) three substantially convex and smoothly curved elongated lobes substantially equally spaced about a circumference of the core region, each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped convex member disposed along a portion of the circumference of the core region, a shortest distance between a geometrical apex of the convex member and the portion of the circumference of the core region being substantially equal to a longest width of the convex member along a geometrical axis perpendicular to a geometrical axis defined by a shortest distance between the apex and the portion of the circumference of the core region, and (c) three substantially concave and smoothly curved channels separating the elongated lobes, a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, each smoothly curved channel being configured to capture at least one of sediment and water, to break up a flow and an energy of water passing over said soil and said mat; and (3) a polymer yarn, stitching said net layer to said non-woven mat, as presently recited in each of amended independent Claims 1 and 18. In addition, the combination of *Bohannon*, *Lancaster*, and *Martin* fails to disclose, teach, or suggest at least those features.

In the Office Action, the Examiner admitted certain of these deficiencies, stating,

[A]lthough the combination of *Bohannon, Jr.*, *Martin et al.*, and *Lancaster* fail to disclose the specific fibrous structure set forth in the claims, it would have been obvious to one having ordinary skill in the erosion control art to have made a

fiber having the claimed specific fibrous structure, motivated by the desire to create an erosion control mat with increased moisture transport ability.

(Office Action, at page 5).

Although Applicants agree that *Bohannon*, *Martin*, and *Lancaster* fail to disclose the specific fibrous structure set forth in the claims, Applicants disagree that it would have been obvious to one having ordinary skill in the erosion control art to have made a fiber having that structure. In particular, Applicants believe that the Examiner's position with regard to this structure is not founded in evidence but, rather, on hindsight gleaned from the present application. Moreover, the Examiner's position summarily dismisses Applicants' invention without considering each of Applicants' specific claim limitations, as required by M.P.E.P. § 2143.03.

To properly establish a *prima facie* case of obviousness, Applicants believe the Examiner must produce evidence of each such limitation, including each of the following: (a) each elongated lobe consisting of a single, substantially symmetrical half-ellipse shaped convex member (b) disposed along a portion of the circumference of the core region, (c) a shortest distance between a geometrical apex of the convex member and the portion of the circumference of the core region being substantially equal to a longest width of the convex member along a geometrical axis perpendicular to a geometrical axis defined by a shortest distance between the apex and the portion of the circumference of the core region, (d) three substantially concave and smoothly curved channels separating the elongated lobes, (e) a portion of each smoothly curved channel comprising a plurality of points along the circumference of the core region, (f) each smoothly curved channel being configured to capture at least one of sediment and water, (g) to break up a flow and an energy of water passing over said soil and said mat. Because neither *Bohannon*, *Martin*, nor *Lancaster*, whether alone or in combination, discloses, teaches, or suggests any of these limitations, Applicants submit that each of independent Claims 1 and 18 is patentable over at least *Bohannon*, *Martin*, and *Lancaster*. Accordingly, Applicants respectfully request withdrawal of the rejections of these claims.

Dependent Claims

Each of Claims 3-8 and 19-25 depends directly or indirectly from one of the independent claims discussed above. Accordingly, for at least the reasons discussed above with respect to the independent claims, Applicants submit that the dependent claims are likewise patentable over at

least *Bohannon*, *Lancaster*, and *Martin*. The dependent claims also recite additional features that further define the claimed invention over *Bohannon*, *Lancaster*, and *Martin*. Accordingly, Applicants request separate and individual consideration of each dependent claim.

Applicants submit that the independent claims are allowable over the documents of record, as discussed above. Applicants have not acquiesced to any rejections of the independent or dependent claims and reserve the right to address the patentability of any additional claim features in the future.

CONCLUSION

Applicants submit the foregoing as a full and complete response to the Office Action. Applicants submit that this application is in condition for allowance and respectfully request such action. If any issues exist that can be resolved with an Examiner's Amendment or a telephone conference, please contact Applicants' undersigned attorney at 404.572.4874.

Respectfully submitted,

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